What is Claimed is:

1. A circuit breaker comprising:

separable contacts;

a latchable operating mechanism including a latch member which when released opens said separable contacts;

a bimetal in series with said separable contacts and adapted for heating by current flowing therethrough, said bimetal including a temperature, a temperature coefficient, a first terminal, and a second terminal having a voltage, said bimetal being adapted to deflect by said heating, said bimetal coupled to said latch member to release said latch member in response to a persistent overcurrent condition; and

a trip assembly comprising:

a thermistor adapted to respond to the temperature of said bimetal,

an amplifier having a first input, a second input and an output,

a first resistor electrically connected between the second terminal of said bimetal and the first input of said amplifier,

a second resistor electrically connected in parallel with said thermistor,

a third resistor electrically connected in series with the parallel combination of said second resistor and said thermistor, with the series combination of said third resistor and the parallel combination of said second resistor and said thermistor being electrically connected between the first input of said amplifier and the output of said amplifier, the second input of said amplifier being referenced to the first terminal of said bimetal, the output of said amplifier having a voltage which is compensated for the temperature coefficient of said bimetal,

means for providing a trip signal as a function of said compensated voltage, and

means for releasing said latch member to trip said separable contacts open in response to said trip signal.

2. The circuit breaker of Claim 1 wherein the first terminal of said bimetal has a first voltage; and wherein the voltage of the second terminal of said bimetal is a second voltage which is different from said first voltage.

3. The circuit breaker of Claim 1 wherein the temperature coefficient of said bimetal is positive; and wherein said thermistor has a negative temperature coefficient.

4. The circuit breaker of Claim 1 wherein said means for providing a trip signal includes means for determining an arc fault trip condition.

5. The circuit breaker of Claim 1 wherein the first terminal of said bimetal has a voltage; wherein said means for providing a trip signal has a ground which is the voltage of the first terminal of said bimetal; wherein said amplifier is an operational amplifier having an inverting input as said first input and a non-inverting input as said second input; and wherein a fourth resistor is electrically connected between said non-inverting input and said ground.

6. The circuit breaker of Claim 5 wherein the output of said operational amplifier provides a negative gain with respect to the voltage of said bimetal.

7. The circuit breaker of Claim 1 wherein said means for releasing said latch member includes a solenoid having a coil adapted for energization in response to said trip signal and an armature driven by said coil for releasing said latch member.

8. The circuit breaker of Claim 1 wherein said bimetal includes a bimetal member and a cantilevered ambient compensation bimetal, said bimetal member and said cantilevered ambient compensation bimetal cooperating to release said latch member in response to said persistent overcurrent condition compensated for ambient conditions.

9. The circuit breaker of Claim 1 wherein said means for providing a trip signal includes an arc fault trip circuit.

10. A method of operating a circuit breaker having separable contacts, said method comprising the steps of:

employing a bimetal having a temperature coefficient in series with said separable contacts;

heating said bimetal to a temperature by passing current through the series combination of said bimetal and said separable contacts;

employing a thermistor having a first terminal and a second terminal to respond to the temperature of said bimetal;

employing an amplifier having a first input, a second input and an output;

electrically connecting a first resistor between the second terminal of said bimetal and the first input of said amplifier,

electrically connecting a second resistor in parallel with said thermistor;

electrically connecting a third resistor in series with the parallel combination of said second resistor and said thermistor;

electrically connecting the series combination of said third resistor and the parallel combination of said second resistor and said thermistor between the first input of said amplifier and the output of said amplifier;

referencing the second input of said amplifier to the first terminal of said bimetal;

outputting a voltage from the output of said amplifier;

providing a trip signal as a function of the voltage; and

opening the separable contacts of said circuit breaker in response to said trip signal.

11. The method of Claim 10 further comprising:

employing a positive temperature coefficient as the temperature coefficient of said bimetal; and

employing said thermistor having a negative temperature coefficient.

12. The method of Claim 10 further comprising:

providing said trip signal as a function of arc fault conditions.

13. The method of Claim 10 further comprising:

providing a negative gain from the output of said amplifier with respect to a voltage of said bimetal.

14. A trip assembly for a circuit breaker having separable contacts and being responsive to a trip signal, said trip assembly comprising:

a bimetal adapted for connection in series with said separable contacts and adapted for heating by current flowing therethrough, said bimetal including a temperature, a temperature coefficient, a first terminal, and a second terminal having a voltage;

a thermistor adapted to respond to the temperature of said bimetal;

an amplifier having a first input, a second input and an output;

a first resistor electrically connected between the second terminal of said bimetal and the first input of said amplifier;

a second resistor electrically connected in parallel with said thermistor;

a third resistor electrically connected in series with the parallel combination of said second resistor and said thermistor, with the series combination of said third resistor and the parallel combination of said second resistor and said thermistor being electrically connected between the first input of said amplifier and the output of said amplifier, the second input of said amplifier being referenced to the first terminal of said bimetal, the output of said amplifier having a voltage; and

means for providing said trip signal as a function of the voltage of the output of said amplifier.

15. The trip assembly of Claim 14 wherein the first terminal of said bimetal has a first voltage; and wherein the voltage of the second terminal of said bimetal is a second voltage which is different from said first voltage.

16. The trip assembly of Claim 14 wherein the temperature coefficient of said bimetal is positive; and wherein said thermistor has a negative temperature coefficient.

17. The trip assembly of Claim 14 wherein said means for providing a trip signal includes an arc fault trip circuit.

18. The trip assembly of Claim 14 wherein the first terminal of said bimetal has a voltage; wherein said means for providing a trip signal has a ground which is the voltage of the first terminal of said bimetal; wherein said amplifier is an

operational amplifier having an inverting input as said first input and a non-inverting input as said second input; and wherein a fourth resistor is electrically connected between said non-inverting input and said ground.

19. The trip assembly of Claim 14 wherein the output of said operational amplifier provides a negative gain with respect to the voltage of said bimetal.

20. A bimetal compensation circuit for a circuit breaker having separable contacts and a bimetal electrically connected in series with said separable contacts and adapted for heating by current flowing therethrough, said bimetal including a temperature, a temperature coefficient, a first terminal, and a second terminal having a voltage, said bimetal compensation circuit comprising:

a thermistor adapted to respond to the temperature of said bimetal;

an amplifier having an input and an output;

a first resistor electrically connected between the second terminal of said bimetal and the input of said amplifier;

a second resistor electrically connected in parallel with said thermistor; and

a third resistor electrically connected in series with the parallel combination of said second resistor and said thermistor, with the series combination of said third resistor and the parallel combination of said second resistor and said thermistor being electrically connected between the input of said amplifier and the output of said amplifier, the output of said amplifier having a voltage, which is compensated for the temperature coefficient of the bimetal.